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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/387,310	08/31/1999	DANIEL YELLIN	162/01150	2435

7590 07/30/2002

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EXAMINER

WILLIAMS, DEMETRIA A

ART UNIT PAPER NUMBER

2631

DATE MAILED: 07/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/387,310

Applicant(s)

YELLIN ET AL.

Examiner

Demetria A. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 August 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-41 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 9-12, 14, 17-20, 22, 27-29, 42, 43, 46 and 47 is/are rejected.
- 7) ☒ Claim(s) 4, 6-8, 13, 15, 16, 21, 23-26, 44, 45 and 48-51 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 9-12, 14, 17-20, 22, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Lundby.

Referring to claim 1, Lundby discloses a method of receiving messages comprising receiving symbols of an encoded message and decoding the frame based on fewer symbols than the number of symbols in the frame (column 1, lines 62-66).

Regarding claim 9, Lundby further discloses that receiving symbols comprises receiving fewer than the number of symbols in the frame (column 1, lines 62-64).

Regarding claim 10, Lundby discloses that a frame can be decoded before all of the bits of the frame are received at the decoding site, thus allowing the decoding to be complete prior to receiving all of the symbols (column 1, lines 47-49).

Regarding claim 11, Lundby discloses that the decoding is performed using a predetermined number of received symbols. This is accomplished by dividing the frame into fractional segments prior to transmission (column 1, lines 54-66)

Regarding claim 12, Lundby discloses that the decoding uses an adaptively adjusted number of received symbols, said adjustment being performed by increasing the number of fractional segments being used in the decoding (column 1, lines 62-67; column 2, lines 1-4).

Referring to claim 14, Lundby further discloses that adaptively adjusting the number of symbols comprises decoding using a number of symbols adjusted responsive to the successes of previously received messages (column 1, lines 62-67; column 2, lines 1-4).

Referring to claim 17, Lundby discloses receiving symbols of the frame while decoding the message (column 1, lines 62-66; column 3, lines 55-62).

Regarding claim 18, Lundby further discloses decoding the frame a second time using more received symbols than used in the previous decoding (column 1, lines 62-67; column 2, lines 1-4).

Regarding claim 19, Lundby discloses that decoding the frame a second time is performed only if the first decoding failed (column 2, lines 1-4).

Regarding claim 20, Lundby discloses that decoding the frame a second time comprises using a number of received symbols responsive to the results of the previous decoding (column 2, lines 1-4).

Referring to claim 22, Lundby discloses a method of receiving messages by a communications terminal comprising receiving symbols of a frame of an encoded message (column 1, lines 62-64), determining a number of received symbols to be used in decoding the

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frame, said number being fewer than the number of symbols (column 1, lines 54-66), and decoding the frame using the determined number of received symbols (column 1, lines 62-66).

Regarding claim 27, Lundby describes determining the number of received symbols comprising determining fewer than the total number of symbols in the frame (column 1, lines 54-66).

3. Claims 1, 2, 3, 5, 28, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Wolf.

Regarding claim 1, Wolf discloses a method of receiving messages by a communication terminal comprising receiving symbols of a frame (or codeword) and decoding the frame based on fewer symbols than the number of symbols in the frame (column 4, lines 47-50).

Regarding claim 2, Wolf further discloses that the decoding comprises decoding based on received symbols and assumed values of symbols not received (column 3, lines 30-42).

Regarding claim 3, Wolf explains the use of assumed or filler values which indicate no knowledge of the symbols (column 3, lines 30-42).

Regarding claim 5, Wolf uses assumed values for parity symbols, which have not yet been received allowing the elimination of certain future branches from the trellis (column 3, lines 40-44), therefore making early decoding advantageous.

Referring to claim 28, Wolf discloses a receiver comprising an input interface for receiving encoded symbols (column 7, lines 15-16), a decoder which decodes the frame based on at least some of the received symbols (column 7, lines 35-49), and a controller, represented by the second interleaver (figure 5, reference character 110), which determines how many of the received symbols are used to decode the frame (column 7, lines 30-49).

Regarding claim 29, Wolf further discloses the use of padding symbols to complete the received symbols to a complete frame (column 3, lines 30-35), said function being performed by a symbol correction circuit (figure 8, reference character 130).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 42, 43, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundby in view of Watanabe et al ("Watanabe" hereinafter).

Referring to claims 42 and 43, Lundby discloses a method of providing a decoded value of a message comprising receiving encoded symbols and decoding the frame based on at least some of the received encoded symbols whereby the number of symbols received are fewer than the number of symbols in the frame (column 1, lines 62-66). Lundby does not disclose the step

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of altering the values of at least one of the decoded bits of the frame following the decoding process. Watanabe discloses a method of providing a decoded value including altering the values of at least one of the decoded bits of the frame by performing an error correction, and providing decoded values of the bits of the frame including the altered values (column 4, lines 58-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lundby to include altering the values of at least one of the decoded bits, as performed by Watanabe, in order to correct for errors in the decoded message.

Referring to claims 46 and 47, Lundby and Watanabe disclose all of the elements as described above in reference to claim 42, but are silent regarding the details of altering the values. While neither specifically mentions that the bits are altered in response to the values of the decoded bits or altering the values provided the frame is altered less than an allowed extent, by performing error correction the values of the decoded bits are inherently used in determining which bits to alter, thereby altering the values responsive to the decoded bits. Further, error correction techniques are only capable of correcting a maximum allowable number of bits, therefore altering the values provided in the frame less than this maximum allowed extent.

### ***Double Patenting***

7. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101, which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefore..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The

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filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

8. Applicant is advised that should claim 25 be found allowable, claim 26 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

*Allowable Subject Matter*

9. Claims 30-41 are allowed. Regarding claim 30, prior art of record fails to disclose a method of decoding a message whereby at least one of the symbols in the frame is altered following reception and prior to decoding the frame. Claims 31-41 depend from claim 30 and are therefore allowable for the same reason.

10. Claims 4, 6-8, 13, 15, 16, 21, 23-26, 44, 45, and 48-51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 4, prior art of record fails to disclose that the assumed values comprise values of a message that is expected with a substantial probability.

Regarding claim 6-8, prior art of record does not suggest that the received symbols indicate that the terminal should move into a sleep or wake condition, nor the use over a paging channel.

Regarding claim 13, prior art of record does not suggest that the number of received symbols used in decoding a frame is adjusted responsive to the quality of the receiving channel.



Regarding claims 15 and 16, prior art of record does not disclose the use of a confidence margin nor a predetermined rate of success in choosing the number of symbols to decode.

Regarding claim 21, prior art of record does not suggest receiving the symbols during an idle mode of the communication terminal.

Regarding claims 23-26, no suggestion is made in the prior art of record indicating that the number of received symbols is responsive to the channel on which they are received, whether the communications terminal is in idle mode, or the success rates in decoding previously received frames.

Regarding claims 44 and 45, prior art of record does not suggest that the altered bits are altered to correspond to an expected message type or that the values are altered irrespective of the values of the decoded bits.

Regarding claim 48, prior art of record does not teach or suggest that

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chin discloses a method for providing a decoded signal including receiving the signal, decoding is, and altering at least one symbol by flipping the bits of an error symbol.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Demetria A. Williams whose telephone number is (703) 305-4078. The examiner can normally be reached on Monday - Friday, 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone numbers for the

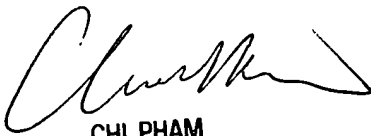
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organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

daw

July 24, 2002

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 7/25/02